SECTION C

The Food Packet, Carbohydrate Supplement provides an operational supplement for the individual.

C-1 ITEM DESCRIPTION

ACR-F-001, FOOD PACKET, CARBOHYDRATE SUPPLEMENT, ASSEMBLY REQUIREMENTS

C-2 ASSEMBLY REQUIREMENTS

A. Components. The components are specified in Table I.

TABLE I. Components

Component	Reference
Beverage Powder, Carbohydrate Electrolyte	PCR-B-013
Flavor I Fruit Punch	
Flavor II Grape	
Flavor III Lemon Lime	
Flavor IV Orange	
Bar, Carbohydrate Energy	PCR-B-014
Type I Crisp Bar	
Flavor A Chocolate	
Flavor B Oatmeal Raisin	
Type II Dense Bar	
Flavor A Chocolate	
Flavor B Oatmeal Raisin	
HOOAH™ Bar	PCR-H-008
Type I Chocolate	
Type II Apple-Cinnamon	

PCR Menu

B. Contents. The contents of each food packet shall be two pouches of beverage powder and one bar. All bar types/flavors shall be procured in equal quantities and assembled in a uniform distribution. All beverage flavors shall be procured in equal quantities and assembled in a uniform distribution. Each food packet shall contain two different beverage flavors.

SECTION D

D-1 PACKAGING

A. Packaging. The food packet pouch material and construction shall be as follows.

(1) Pouch material. The preformed pouch or the flat sheet form-fill-seal pouch shall be fabricated from 0.0015 inch thick polyethylene bonded to 0.00035 inch thick aluminum foil which is bonded to 0.0005 inch thick polyester. Tray-shaped bodies and tray-shaped covers used in form-fill-seal pouch shall be fabricated from 0.0015 inch thick polyethylene bonded to 0.0005 inch thick aluminum foil with 7 pound per ream low density polyethylene extrusions resin which is bonded to 0.00075 inch thick polyester with 10 pound per ream low density polyethylene extrusions resin. All tolerances for thickness of pouch materials shall be plus or minus 20 percent. The exterior color of the pouch shall conform to number 20219, 30219, 30227, 30279, 30313, 30324 or 30450 of FED-STD-595, Colors Used in Government Procurement.

(2) Pouch construction. The pouch shall be a preformed pouch or a form-fill-seal pouch. Dimensions shall be 4-1/2 x 8 inches (± 1/8 inch). Seals shall be a minimum 1/8-inch wide. A tear notch or serrated edge shall be located on one or more seals. The average seal strength of the pouch seals shall be not less than 6 pounds per inch of width and no individual specimen shall have a seal strength less than 5 pounds per inch of width. A 1/8-inch wide lip may be incorporated at the open end of the pouch

(3) Food packet assembly. One of each applicable component as described in C-2, B shall be inserted in the pouch. For a preformed pouch, contents shall be inserted in the pouch and the pouch shall be closed with a heat seal not less than 1/8 inch wide. For a form-fill-seal pouch, components shall be placed in the body and the cover applied by heat sealing with a seal not less than 1/8 inch wide. The closure seal shall be free of foldover wrinkles or entrapped matter that reduces the effective seal width to less than 1/16 inch. The average seal strength of the pouch seals shall be not less than 6 pounds per inch of width and no individual specimen shall have a seal strength less than 5 pounds per inch of width. The sealed pouches shall not show any evidence of delamination.

D-2 LABELING

A. Food packet. Each food packet shall be printed or stamped on the pouch in a manner that does not damage the item with permanent black ink or any other contrasting color. The information may be located anywhere on the pouch (in one complete print), except the closure seal area. Continuous printing is acceptable provided that the complete markings appear uninterrupted on at least one face of the pouch. The label shall contain the following information:

FOOD PACKET, CARBOHYDRATE SUPPLEMENT
Date 1/
Contractor's name and address

1/ Each food packet shall have the date of pack noted by using a four-digit code beginning with the final digit of the current year followed by the three digit Julian day code. For example, 17 July 2003 would be coded as 3198. The Julian day code shall represent the day the product was packaged into the pouch.

D-3 PACKING

A. Packing. Twenty-five food packets shall be packed in a fiberboard box constructed in accordance with RSC-L, grade V3c of ASTM D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The inside dimensions of the box shall be 15-3/4 inches in length, 9-3/4 inches in width and 6-1/4 inches in depth. A partition, dividing the box into 4 equal cells, shall be inserted in the box. The box shall be closed and sealed in accordance of ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes. Stapling shall be excluded.

D-4 UNITIZATION

A. Unit loads. Sixty boxes shall be arranged in unit loads in accordance with Type I, Class A or B of DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. At least two boxes in each tier shall be oriented to display the TTI label.

D-5 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DSCP FORM 3556, Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence and as specified in the contract, and with the following additional markings:

1. Identification markings:

FOOD PACKET, CARBOHYDRATE SUPPLEMENT
Contract data and other required markings
Date of pack
Lot number
U.S. GOVERNMENT PROPERTY – COMMERCIAL RESALE IS UNLAWFUL

2. Time Temperature Indicator: The Time Temperature Indicator (TTI) label shall be a 3/4-inch square, bull's-eye type, pressure sensitive adhesive label. The TTI shall have an activation energy (Ea) of 24-30 kcal/mole, be protected from ultraviolet radiation and have a shelf life of 1100 days at 80ºF as pivot point. The TTI shall be centrally positioned on the panel. A minimum distance (quiet zone) of 1/4 inch from the nearest identification marking shall be maintained.

B. Unit loads. Unit loads shall be marked in accordance with DSCP FORM 3556.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, single sampling plans indicated in ANSI/ASQC Z1.4-1993 will be utilized. When required, the manufacturer shall provide the certificate(s) of conformance to the appropriate inspection activity. Certificate(s) of conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

B. Conformance inspection. Conformance inspection shall include the examinations/tests and the methods of inspection cited in this section.

C. Packaging examination.

(1) Pouch material certification. Material listed below may be accepted on the basis of a contractor's certification of conformance to the indicated requirements. In addition, compliance to the requirements for inside pouch dimensions and dimensions of manufacturer's seals may be verified by certificate of conformance.

Requirement	Requirement paragraph	Test procedure
Thickness of pouch material	D-1,A,(1)	ASTM D 2103 1/
Color of pouch	D-1,A,(1)	Visual evaluation and FED-STD-595, as applicable 2/
Aluminum foil thickness	D-1,A,(1)	ASTM B 479 3/
Laminated material identification and construction	D-1,A,(1)	Laboratory evaluation

1/ ASTM D 2103-97 Standard Specification for Polyethylene Film and Sheeting

2/ FED-STD-595 Colors Used in Government Procurement

3/ ASTM B 479-00 Standard Specification for Annealed Aluminum and Aluminum-Alloyed Foil for Flexible Barrier, Food Contact and Other Applications

(2) Assembled food packet examination. The filled and sealed food packets shall be examined for the defects listed in Table II. The lot size shall be expressed in food packets. The sample unit shall be one food packet. The inspection level shall be S-4 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major defects and 4.0 for minor defects.

TABLE II. Assembled food packet defects

Category		Defect
Major	Minor	
101		Menu component missing or incorrect assortment of components.
102		Food packet pouch or component packaging not clean. 1/
103		Foreign odor.
104		Labeling missing, incorrect, or illegible.
105		Crushed or broken component. 2/
106		Tear, hole or open seal in component package.
107		Seal width less than 1/16 inch. 3/
108		Presence of delamination. 4/
	201	Dimensions of food packet pouch not 4-1/2 x 8 inches (± 1/8 inch).
	202	Tear, hole or open seal in food packet pouch.
	203	Tear notch or serrations missing.
	204	Evidence of delamination. 4/
	205	Seal width less than 1/8 inch but greater than 1/16 inch.

1/ Outer packaging shall be free from foreign matter which is unwholesome, has the potential to cause package damage (i.e. glass, metal filings, etc.), or generally detracts from the clean appearance of the package. The following examples shall not be scored as defects for unclean:

a. Foreign matter which presents no health hazard or potential package damage and which can be readily removed by gently shaking the package or by gently brushing the package with a clean dry cloth.

b. Localized dried product which affects less than 1/8 of the total surface area of one pouch face, or an aggregate of scattered dried product which affects less than 1/4 of the total surface area of one pouch face.

2/ For definition of crushed or broken, refer to applicable component document.

3/ An effective seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/16 inch wide, producing a hermetically sealed pouch.

4/ Delamination defect classification:

Major - Delamination of the outer ply in the pouch seal area that can be propagated to expose aluminum foil at the food product edge of the pouch after manual flexing of the delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise- counterclockwise directions. Care shall be exercised when flexing delaminated areas near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food product edge of the seal or if the separated area is too small to be held between thumb and forefinger, a number two stylus shall be inserted into the delaminated area and a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the pouch that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the pouch and remove the contents. Cut the pouch transversely not closer than 1/4 inch ($\pm$1/16 inch) from the delaminated area. The pouch shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

Minor - Minor delamination of the outer ply in the pouch seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the pouch seal area or isolated spots of delamination in the body of the pouch that do not propagate when flexed as described above shall be classified as minor defects.

(3) Seal testing. The pouch seals shall be tested for seal strength as required in a or b, as applicable.

a. Unfilled preformed pouch. The seals of the unfilled preformed pouches for the food packet shall be tested for seal strength in accordance with ASTM F 88-00, Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection shall be level S-1 and the AQL, expressed in defects per hundred units, shall be 10.0. Three specimens shall be cut from each of the three sealed sides of each pouch in the sample. The average seal strength of any side shall be calculated by averaging the results of the three specimens cut from that side. Any average seal strength of less than 6 pounds per inch of width or any test specimen with seal strength of less than 5 pounds per inch of width shall be classified as a major defect and shall be cause for rejection of the lot.

b. Pouch closure. The closure seals of the pouches for the food packets shall be tested for seal strength in accordance with ASTM F 88. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection level shall be S-1 and the AQL, expressed in defects per hundred units, shall be 10.0. For the closure seal on preformed pouches, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. For the form-fill-seal pouches, three specimens shall be cut from each side and each end of each pouch in the sample. The average seal strength of any side, end or closure shall be calculated by averaging the three specimens cut from that side, end or closure. Any average seal strength of less than 6 pounds per inch of width or any test specimen with seal strength of less than 5 pounds per inch of width shall be classified as a major defect and shall be cause for rejection of the lot.

(4) Unfilled preformed pouch seal certification. A certificate of conformance may be accepted as evidence that unfilled pouches conform to the seal strength requirements specified in D-1,A,(2). When deemed necessary by the USDA, seal testing of the unfilled pouches shall be as specified in E,C,(3),a.

D. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in Table III. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE III. Shipping container and marking defects

Category		Defect
Major	Minor	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application.
102		Inadequate workmanship. 1/
	201	Not 25 food packets per box.
	202	TTI missing or not centrally located on panel.
	203	TTI 1/4 inch quiet zone not maintained.
	204	Presence of staples.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, improper taping, or bulged or distorted container.

E. Unit load examination. The unit load shall be examined in accordance with the requirements of DSCP FORM 3507. Any nonconformance shall be classified as a major defect.

SECTION J REFERENCE DOCUMENTS

DSCP FORMS

DSCP FORM 3507 - Loads, Unit: Preparation for Semiperishable Subsistence Items

DSCP FORM 3556 - Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable

FEDERAL STANDARDS

FED-STD-595 - Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQCZ1.4-1993 - Sampling Procedures and Tables for Inspection by Attributes

ASTM INTERNATIONAL

B 479-00 - Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact and Other Applications

D 1974-98 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

D 2103-97 – Standard Specification for Polyethylene Film and Sheeting

D 5118/D 5118M-01 - Standard Practice for Fabrication of Fiberboard Shipping Boxes

F 88-00 - Standard Test Method for Seal Strength of Flexible Barrier Materials